

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
24 February 2005 (24.02.2005)

PCT

(10) International Publication Number  
**WO 2005/016947 A3**

(51) International Patent Classification<sup>7</sup>: C12Q 1/68,  
AOIN 43/04, C07H 21/04, A61K 31/07

(21) International Application Number:  
PCT/US2004/026344

(22) International Filing Date: 12 August 2004 (12.08.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
10/641,455 15 August 2003 (15.08.2003) US

(71) Applicants (for all designated States except US): **ISIS PHARMACEUTICALS, INC.** [US/US]; 2292 Faraday Avenue, Carlsbad, CA 92008 (US). **NATIONAL UNIVERSITY OF SINGAPORE** [SG/SG]; Industry & Technology Relations Office, Block SIO, Level 1, 6 Science Drive 2, Singapore 117546 (SG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MONIA, Brett P.** [US/US]; 2306 Casa Hermosa Court, Encinitas, CA 92024 (US). **DOBIE, Kenneth W.** [US/US]; 703 Stratford Ct., #4, Del Mar, CA 92014 (US). **FREIER, Susan M.** [US/US]; 2946 Renault Street, San Diego, CA 92122 (US). **POPOFF, Ian** [CA/US]; 904 Hygeia Avenue,

Encinitas, CA 92024 (US). **WONG, Wai Shiu Fred** [-/SG]; 52 Hume Avenue, #04-12, Singapore 596230 (SG). **KARRAS, James G.** [US/US]; 1159 Montura Road, San Marcos, CA 92069 (US).

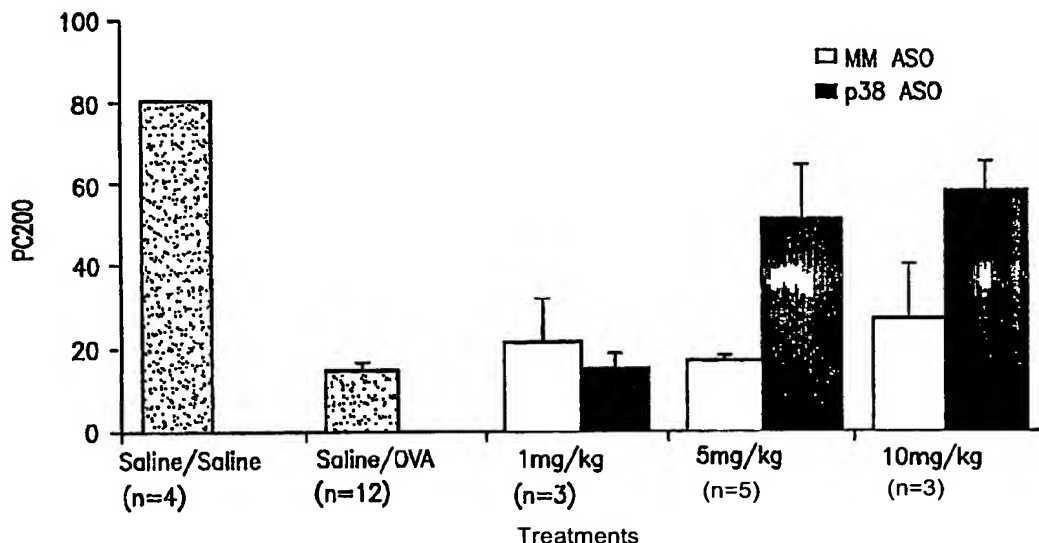
(74) Agent: **SHUSTER, Michael J.; FENWICK & WEST** LLR, Silicon Valley Center, 801 California Street, Mountain View, CA 94041 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: ANTISENSE MODULATION OF p38 MITOGEN ACTIVATED PROTEIN KINASE EXPRESSION



(57) Abstract: Compositions and methods for the treatment and diagnosis of diseases or conditions amenable to treatment through modulation of expression of a gene encoding a p38 mitogen-activated protein kinase (p38 MAPK) are provided. Methods for decreasing airway hyperresponsiveness or airway inflammation in an animal are also provided.

WO 2005/016947 A3



**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**(88) Date of publication of the international search report:**

5 January 2006